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'Prairie Splendor' *Penstemon*

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'Prairie Splendor' *Penstemon*

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'Prairie Splendor' is a *Penstemon* being released by the Univ. of Nebraska for its large, attractive flowers. This seed-propagated selection produces uniform plants except that flower colors differ between plants. 'Prairie Splendor' has been registered with the American Penstemon Society and assigned registration number 9301.

Origin

'Prairie Splendor' *Penstemon* originated from four generations of mass selection from the segregating population 'Henry Hybrids', which was named by Viehmeyer around 1960 (Viehmeyer, 1969) (Fig. 1). 'Henry Hybrids' originated from a cross of *Penstemon cobaea* Nutt. × *Penstemon triflorus* A. Heller made by Mrs. Norman Henry of Gladwyne, Pa., around 1940. *Penstemon cobaea* Nutt., a native plant found growing from southeastern Nebraska to Texas, has either white to pale-violet flowers *(P. cobaea* var. *cobaea)* or lavender flowers *(P. cobaea* var. *purpureus)* (Kelaidis, 1991; Liberty Hyde Bailey Hortorium, 1976). *Penstemon triflorus,* native to the western half of the Edwards Plateau and the Trans-Pecos of Texas, has rose-purple flowers, which are smaller than *P. cobaea* (Kelaidis, 1991; Liberty Hyde Bailey Hortorium, 1976).

In 1982, seed from the 'Henry Hybrids' (provided by George Yingling, Dayton, Ohio) was germinated, and the resulting seedlings were planted in field plots at the Univ. of Nebraska West Central Research and Extension Center, North Platte. Seeds, from individual plants with the largest flowers, moderate height, a range of flower colors (white to dark lavender), and least amount of foliar leafspot diseases (cercospora and alternaria leafspots), were collected and bulked for four generations using mass selection.

Description

'Henry Hybrids',thepopulationfromwhich 'Prairie Splendor' was selected, displayed plant-to-plant variation in flower shape and size, with some individuals resembling *P. cobaea* and others resembling *P. triflorus* (Viehmeyer, 1963, 1969). 'Prairie Splendor' displays variation among plants in flower color but has foliage similar to *P. cobaea.* Strains that have some resemblance to 'Prairie Splendor', including 'Henry Hybrids', 'Gurney Hybrids', and 'Raabe Hybrids', are no longer available commercially (Lindgren and Davenport, 1992).

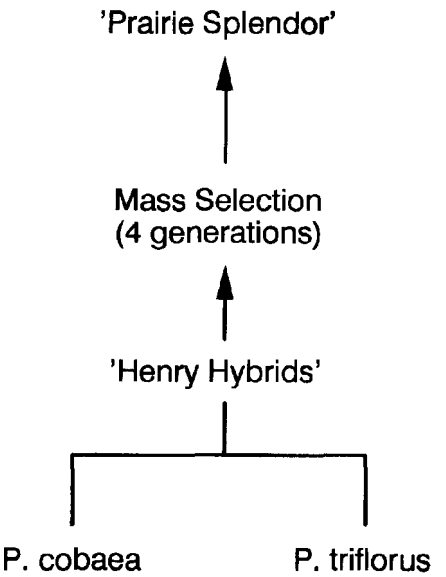

Fig. 1. Pedigree of 'Prairie Splendor'.

The average plant characteristics of 'Prairie Splendor' are height, 65.6 ± 15.2 cm; number of stalks per plant, 5.8 ± 3.1; number of flowers per stalk, 35.6 ± 8.0; and leaf length, 6-10 cm (based on 507 two-year-old plants in 1991). 'Prairie Splendor' is a short-lived perennial, living 3 to 5 years.

Flower size on seedlings of *P. cobaea, P. triflorus,* and 'Prairie Splendor' were compared in 1992. The average flower size of 'Prairie Splendor' (length = 4.9 ± 0.3 cm; width = 3.5+ 0.4 cm) was very similar to that of *P. cobaea* (length = 4.9 ± 0.4 cm; width = 3.1 ± 0.4 cm) and larger than that of*P. triflorus* (length = 3.5 ± 0.3 cm; width= 2.4 ± 0.2 cm). Flower duration for 'Prairie Splendor' in 1989, 1990, 1991, and 1992 was 5 June to 3 July, 3 June to 1 July, 3 to 24 June, and 25 May to 6 July, respectively. Flower colors of 'Prairie Splendor' include various shades of white, pink, lavender, and rose.

Larva of several Lepidoptera species were found feeding on reproductive parts of the blooms of 'Prairie Splendor' in the early bloom stage in 1992 but are not considered a significant problem. Two species of flea beetles *(Disonycha caroliniana* Fabr and *Epitrix subcrinita* LeConte) have been found feeding on the foliage. Foliar leaf spots *(Cercospora* spp. and *Alternaria* spp.) are more common, especially during wet conditions, on 3-year-old and older plants. Insect infestations and disease infections varied yearly.

Propagating 'Prairie Splendor' from seed is the easiest method for obtaining sufficient plants from this selection. In 1989 through 1992, in studies that used randomized complete blocks (50 seeds per replication and four replications), seeds that were collected in 1988 were cold stratified at 1 ± 4C for 0 to 10 weeks (Table 1). Germination was generally highest for the 6-to 10-week exposure. Three- and 4-year-old seed (1991 and 1992) germinated better than 1- and 2-year-old seed (1989 and 1990). Seed size varied from 479 ± 10 to 549 ± 4 seeds/gram in 1990 and 1991, respectively.

Individual plants with specific flower colors can be selected and vegetatively propagated by cuttings or divisions, or they can be seed propagated. However, with seed propagation, a range of flower colors can be maintained. This mass-selected population also can be used as a source of germplasm by those interested in using it in *Penstemon* breeding programs.

Availability

'Prairie Splendor' seed is available from D.T.L. for $10 per packet (500 seeds). Nurseries interested in larger amounts of seed should contract with private companies to increase the seed. If 'Prairie Splendor' is used to develop new germplasm or cultivars, appropriate recognition of the source is requested.

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Table 1. Average germination (percent) of 'Prairie Splendor' *Penstemon* seed stratified in 1989,1990,1991, and 1992.

	Weeks of stratification[z]						
Year	**0**	2	4	6	8	10	LSD (0.05)
1989	**0.0**	**3.0**	**1.0**	**1.0**	**1.5**	**3.0**	**2.0**
1990	**2.0**	**2.0**	**2.0**	**4.5**	**11.5**	**21.0**	**3.1**
1991	**5.0**			**41.0**	**42.5**	**46.5**	**11.7**
1992	4.0				40.0		14.0

[z]All seeds were harvested in 1988 and were moist-stratified at 1 ± 4C for each of the weeks indicated.

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